

### **REMARKS**

Claims 1-3, 5, and 7-13 are pending and rejected. Claims 4 and 6 have been canceled without prejudice or disclaimer. Claim 5 has been amended to depend from claims 1 and 2. No new matter is added. Accordingly, upon entry of this paper, claims 1-3, 5, and 7-13 remain pending.

### **Rejections under 35 U.S.C. § 112, first paragraph**

Claims 1-3, 5 and 7-13 are rejected under 35 U.S.C. § 112, first paragraph, for allegedly lacking an adequate written description. The Office Action at page 2 alleges that deleting the Table at page 12 of the original filed specification results in the specification lacking an adequate written description. Applicants respectfully disagree.

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. (*Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116; MPEP §2163).

The present claims are directed to methods for controlling spider mites and powdery mildew by applying an emulsion comprising an emulsifier, soap, and hop beta acids to an agricultural crop. At the section of the originally filed specification spanning pages 10, line 6 to page 11, and from page 12, last two lines, to page 13, line 13, Applicants describe field test results where applying an emulsion comprising an emulsifier, soap, and hop beta acids to an agricultural crop was effective to kill mites and to control powdery mildew.

Clearly, this disclosure is sufficient to show that Applicants were in possession of the claimed invention. Nothing further is required. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

### **Rejections under 35 U.S.C. § 103(a)**

Claims 1-3, 5 and 7-13, which are directed to methods for controlling spider mites and powdery mildew by applying an emulsion comprising an emulsifier, soap, and hop beta acids to an agricultural crop, are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over

Jones et al. (Pestic. Sci. 47:165-169, 1996; "Jones"). Applicants respectfully traverse the rejection.

To establish a prima facie case of obviousness, the Examiner must first show that there is a suggestion or motivation to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations (MPEP §2143). In the absence of a showing that the references expressly or impliedly suggest all of the claim limitations the rejection under § 103 is improper and must be withdrawn. (MPEP §2142).

The Office Action at page 3 alleges that "JONES recites fungicidal & acaricidal activity of both alpha & beta Hops acids was known (p.165, 1) & use of the natural hops acids provides fungicidal and acaricidal activities of both alpha and beta hops acids." Applicants respectfully disagree with this statement.

Jones does not state that alpha and beta Hops acids have fungicidal and acaricidal activity. Rather Jones specifically states: "Synthetic 2-acetylcyclohexane-1,3-diones have been prepared that are antibiotic, fungicidal or acaricidal." However, a review of the documents cited by Jones to support the above statement indicates that the references relied upon do not relate to hop beta acids (i.e., Japanese Patent 01633 and Japanese Patent 125,738).

The '1633 patent, entitled "Beta triones as fungicides," relates to the use of beta triones to treat rice blight. The beta triones are not hops beta acids, thus the '1633 patent fails to describe hop beta acids, and furthermore fails to describe the use of hops beta acids to treat powdery mildew.

The '5738 patent, entitled "Insecticidal and acaricidal cyclohexenes," relates to the use of cyclohexenes to control mites and insects. The cyclohexenes are not hops beta acids, thus the '5738 patent fails to describe hop beta acids, and therefore it also fails to provide support for Jones statement that hop beta acids have acaricidal activity.

The references cited by Jones describe products that are entirely distinct and chemically dissimilar to hop acids, and, therefore, Jones' reliance on these references is erroneous and misplaced. In fact, none of the art cited by the Examiner teaches or suggests that hop acids can be used to treat powdery mildew, downy mildew or blight organisms. Accordingly, the obviousness rejection of claims 2, 3, 5, and 8-12, which are directed to

methods of using hop acids to control powdery mildew, downy mildew or blight organisms is improper and should be withdrawn.

Jones describes producing ethanolic solutions that contain 10% water and 0.1%, 1%, or 10% beta-acid fraction of hops acids in 80%, 89%, or 89.9% ethanol, respectively. As characterized by the Examiner, Jones found that beta acids repelled spider mites. The data presented by Jones involved only using **an ethanolic solution** of a beta-acid fraction. Applicants reiterate that Jones neither teaches nor suggests applying hop acids as an aqueous emulsion to control pests. **Jones fails to teach or suggest that beta acids should be applied in an emulsion, let alone that hop acids should be applied in an emulsion, as required by the claims.** In fact, Jones fails entirely to address the subject of emulsions.

The Office has cited Parsons to remedy the above deficiencies. Parsons describes the use of 1-(Benzamido) pyridinium compounds as insecticides. Parsons fails to remedy the deficiency of Jones because Parsons fails to describe hop acids or any control activity of hops acids, nor provide any rationale why with a reasonable expectation of success, one would be motivated to extrapolate the Parsons subject matter relating to 1-(Benzamido) pyridinium compounds to Applicants' claimed subject matter, i.e. beta hop acid formulations.

The Office has further cited Locke to remedy the above deficiencies. Locke describes insecticidal compositions comprising neem oil and soap. Locke also fails to mention hop acids. Even so, one could not combine the neem oil described by Locke as useful in repelling insects from skin and wool with the solutions described by Jones and Parsons to arrive at Applicants' claimed method of applying an aqueous emulsion comprising hop acids. Therefore, Locke fails to teach or suggest applying an emulsion comprising hop beta acids to crops.

In sum, the aforementioned motivation to combine the references as well as the requisite reasonable expectation of success are both absent here. The cited references fail to teach or suggest all of the claim limitations. Thus, Applicants submit that a *prima facie* case is not established based on Jones in view of Parsons and Locke. None of the cited references, alone or in any combination is sufficient to support the rejection of the claims under 35 U.S.C. § 103. Thus, withdrawal of the rejection is respectfully requested.

### CONCLUSION

In view of the foregoing arguments, Applicants respectfully request reconsideration and withdrawal of all pending objections/rejections and allowance of the applications with claims 1-3, 5, and 7-13 presented herein.

The Commissioner is authorized to charge Deposit Account No.: 04-1105 referencing Docket No: 61842CIP(51035) the fee for a three-month extension based upon small entity status. No additional fee is believed due, however, if an additional fee is due, the Director is hereby authorized to charge any credits or deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 61842CIP(51035).

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